

## Claims

We claim:

1. A method for producing a population of monoclonal antibodies that bind to  
5 antigens representative of a specific cell type that are heterologous to a host mammal,  
comprising immunizing the host mammal with a plurality of viable and intact cells of said cell  
type; fusing lymphoid cells from the immunized mammal with an immortalized cell line to  
produce hybridomas that secrete monoclonal antibodies; culturing the hybridomas under the  
conditions favorable for the secretion of monoclonal antibodies; and selecting the hybridomas  
10 that secrete monoclonal antibodies binding to surface antigens present on the viable and intact  
cells, wherein the surfaces of the cells are free of serum.

2. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells have been cultured in a serum-free medium.

15 3. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells have been grown in the form of a monolayer.

20 4. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells have been grown in the form of aggregates.

5. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells have been grown on a biological or a non-biological substrate.

25 6. The method for producing a population of monoclonal antibodies according to  
claim 5, wherein the biological substrate is selected from the group consisting of collagen,  
fibronectin, laminin, and poly-lysine.

30 7. The method for producing a population of monoclonal antibodies according to  
claim 5, wherein the non-biological substrate is selected from the group consisting of  
nitrocellulose, nylon, and polytetrafluoroethylene membrane.

8. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells are of embryonic or adult origin.

5 9. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells are of ectodermal, or endodermal or mesodermal origin.

10 10. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the cells are selected from the group consisting of ASC, ESC, ROG, BUD,  
RED, NODD, BR516, RL-65, and NEP cells.

11. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the selection is effected by an immunoassay.

15 12. The method for producing a population of monoclonal antibodies according to  
claim 11, wherein the immunoassay is selected from the group consisting of ELISA and  
immunoblotting.

20 13. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the selection is effected by a cell sorting process.

14. The method for producing a population of monoclonal antibodies according to  
claim 13, wherein the cell sorting process is FACS.

25 15. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein the monoclonal antibodies bind to an extracellular domain of the cell surface  
antigens.

30 16. The method for producing a population of monoclonal antibodies according to  
claim 1, wherein at least one monoclonal antibody in the population binds to an extracellular  
domain of the cell surface antigens.

17. The method for producing a population of monoclonal antibodies according to claim 16, wherein the binding of at least one monoclonal antibody to extracellular domain of the cell surface antigens has a functional effect on the cells.

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18. A method for producing lymphoid cells useful for immunizing a host mammal to produce monoclonal antibodies that bind to antigens representative of a specific cell type that are heterologous to the host mammal, comprising introducing into the mammal a plurality of viable and intact cells of said cell type, wherein the surfaces of the cells are free of serum.

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19. The method for producing lymphoid cells according to claim 18, wherein the cells have been cultured in a serum-free medium.

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20. The method for producing lymphoid cells according to claim 18, wherein the cells have been grown in the form of a monolayer.

21. The method for producing lymphoid cells according to claim 18, wherein the cells have been grown in the form of aggregates.

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22. The method for producing lymphoid cells according to claim 18, wherein the cells have been grown on a biological or a non-biological substrate.

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23. The method for producing lymphoid cells according to claim 22, wherein the biological substrate is selected from the group consisting of collagen, fibronectin, laminin, and poly-lysine.

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24. The method for producing lymphoid cells according to claim 22, wherein the non-biological substrate is selected from the group consisting of nitrocellulose, nylon, and polytetrafluoroethylene membrane.

25. The method for producing lymphoid cells according to claim 18, wherein the cells are of embryonic or adult origin.

5 26. The method for producing lymphoid cells according to claim 18, wherein the cells are of ectodermal, or endodermal or mesodermal origin.

27. The method for producing lymphoid cells according to claim 18, wherein the cells are selected from the group consisting of ASC, ESC, ROG, BUD, RED, NODD, BR516, RL-65, and NEP cells.